

ABSTRACT OF THE DISCLOSURE

An apparatus comprising one or more groups of boundary scan cells, one or more group buffers, one or more repeater buffers and a controller. The group buffers may be coupled to each of the groups of boundary scan cells. The repeater buffers may be coupled in series with the group buffers. The controller may be coupled to the groups of boundary scan cells through the group buffers and the repeater buffers. The apparatus may be configured to buffer the groups of boundary scan cells to reflect an order of I/Os around the apparatus.